IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	**10/633,137**	Confirmation No. **3128**
Applicant	:	**Mohammad Athar Shah and Michael J. Horowitz**	
Filed	:	**August 1, 2003**	
TC/A.U.	:	**2621**	
Examiner	:	**Anand Shashikant Rao**	
Docket No.	:	**199-0201US**	
Customer No.	:	**29855**	
Title	:	**METHODS FOR ENCODING OR DECODING IN A VIDEOCONFERENCE SYSTEM TO REDUCE PROBLEMS ASSOCIATED WITH NOISY IMAGE ACQUISITION**	

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RESPONSE TO THIRD NOTICE OF NON-COMPLIANT APPEAL BRIEF

This paper is filed in response to the third Notice of Non-Compliant Appeal Brief mailed February 23, 2010 ("the Third Notice"). Examiner has now for the first time, after three notices of non-compliance, identified the problem with the appeal brief as the absence of response to a rejection that was not included with the final rejections. Included herewith is a response to this argument, which was presumed withdrawn based on the absence of the argument or any mention of it from the final rejection and the first and second notices of non-compliant appeal brief.

Respectfully Submitted,

March 23, 2010

Filed Electronically

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SUBSTITUTE APPEAL BRIEF

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I. REAL PARTY IN INTEREST

The real party in interest is Polycom, Inc.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

Claims 1–4, 6, 9-24, 26, 29-34, 36 and 39-40 are rejected and are appealed. Claims 5, 7-8, 25, 27-28, 35 and 37-38 are cancelled.

IV. STATUS OF AMENDMENTS

None filed

V. SUMMARY OF CLAIMED SUBJECT MATTER

This section provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by paragraph and line number and to the drawings by reference characters as required by 37 CFR § 41.37(c)(l)(v). Where applicable, each element of the claims is identified with a corresponding reference to the specification and drawings. Citation to the specification and/or drawings does not imply that limitations from the specification and drawings should be read into the corresponding claim element. Additionally, references are not necessarily exhaustive, and various claim elements may also be described at other locations.

Independent claim 1 recites a method implementable on an encoder (¶ 0028 ll. 3-6) for adjusting a coding threshold (¶ 0028 ll. 4-6) for encoding a block in an image (¶ 0028 l. 6), wherein the coding threshold determines whether the block should be coded (¶ 0028 ll. 7-8), comprising:

- encoding, at a first time, a first image representation of the block using first encoding parameters generated by the encoder (¶ 0031);
- encoding, at a second time later than the first time, a second image representation of the block using second encoding parameters generated by the encoder (¶ 0030);
- assessing at least the first and second encoding parameters to determine whether

the image is likely stationary wherein the first and second encoding parameters comprise at least first and second quantization parameters (¶¶ 0030 ll. 5-8, 0031 ll. 1-9; Fig. 5 elements 100, 102, 104, 106, 108, 110); and

- if the image is likely stationary, adjusting the coding threshold in the encoder for at least a portion of the block (¶ 0031 ll. 12-13; Fig. 5, elements 104, 110, 114).

Independent claim 13 recites a method implementable on an encoder (¶ 0028 ll. 3-6) for adjusting a coding threshold (¶ 0028 ll. 4-6) for encoding a block in an image (¶ 0028 l. 6), wherein the coding threshold determines whether the block should be coded (¶ 0028 ll. 7-8), comprising:

- encoding, at a first time, a first image representation of the block using at least a first quantization parameter and a first motion vector generated by the encoder (¶ 0031; Fig. 5 element 108, 110);
- encoding, at a second time later than the first time, a second image representation of the block using at least a second quantization parameter and a second motion vector generated by the encoder (¶ 0030; Fig. 5 element 102, 104); and
- adjusting the coding threshold in the encoder for at least a portion of the block if the first and second motion vectors are substantially zero and if the first and second quantization parameters are respectively less than first and second quantization parameter thresholds (¶ 0031 ll. 12-13; Fig. 5, elements 104, 110, 114).

Independent claim 21 recites a method implementable on a decoder capable of displaying a block of an image on a display (¶ 0037; Fig 6), comprising:

- receiving from an encoder, at a first time, a first image representation of the block including first encoding parameters generated by the encoder (¶ 0037 ll. 4-7);
- receiving from an encoder, at a second time later than the first time, a second image representation of the block including second encoding parameters generated by the encoder (¶ 0037 ll. 4-7);
- assessing at the decoder whether the image is likely stationary using at least the first and second encoding parameters, wherein the first and second encoding

parameters include at least first and second quantization parameters (¶ 0037 ll. 10-12; Fig. 2 elements 202, 208); and

- if the image is likely stationary, not updating at least a portion of the block on the display (¶ 0037 ll. 12-15; Fig. 2 element 212).

Independent claim 31 recites a method implementable on an encoder (¶ 0028 ll. 3-6) capable of transmitting image information to a decoder, comprising:

- encoding, at a first time, a first image representation of the block using first encoding parameters generated by the encoder (¶ 0031);
- encoding, at a second time later than the first time, a second image representation of the block using second encoding parameters generated by the encoder (¶ 0030);
- assessing at least the first and second encoding parameters to determine whether the image is likely stationary, wherein the first and second encoding parameters comprise at least first and second quantization parameters (¶¶ 0030 ll. 5-8, 0031 ll. 1-9; Fig. 7 elements 302, 304, 308, 310); and
- if the image is likely stationary, sending a no code signal to a decoder for at least a portion of the block. (¶ 0038)

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1–4, 6, 9–20, 31–34, 36, and 39–40 were rejected under 35 U.S.C. § 103(a) as being obvious over US Patent 5,231,484 to Gonzales ("Gonzales") in view of US Patent 6,360,017 to Chiu ("Chiu"). Review of this rejection is sought as to independent claims 1, 13, and 31. For the reasons set forth below, Gonzales and Chiu, jointly or individually, do not render obvious the independent claims. Remaining claims 2-6, 9-12, 14-20, 22-26, 29-30, 32-36 and 39-40 each depend from one of the above-mentioned independent claims, were also rejected under these references or other rejections including these reasons. Therefore, separate review of these rejections is not sought, as the dependent claims are necessarily patentable for at least the same reasons as the independent claims.

Claims 21–24, 26, 29–30 were rejected on April 14, 2008 as obvious over Gonzales in view of U.S. Patent 6,870,883 to Iwata ("Iwata"). Although Examiner did not repeat this

rejection in any subsequent office action, including the final rejection now appealed, he nonetheless now contends that this rejection stands. Review of this rejection as to independent claim 21 is sought. As set forth herein, independent claim 21 is allowable over Gonzales in view of Iwata. Dependent claims 22–24, 26, and 29–30 depend from claim 21 and are therefore necessarily patentable for at least the same reasons. Therefore, separate review of the rejections of these dependent claims is not sought.

VII. ARGUMENT

For purposes of this appeal, the claims do not stand or fall together, except as otherwise noted herein. Appellants reserve the right to present separate arguments as to the patentability of the various claims in any subsequent proceedings.

A. The Rejection Of Claims 1–4, 6, 9–20, 31–34, 36, And 39–40 As Obvious Over Gonzales In View of Chiu

In the Final Rejection dated December 2, 2008, Examiner maintained the rejection of claims 1–4, 6, 9–20, 31–34, 36, and 39–40 under § 103(a) as obvious over Gonzales in view of Chiu. Appellants traverse the rejections of independent claims 1, 13, and 31 as set forth below. The dependent claims are necessarily patentable for at least the same reasons as independent claims.

1. Independent Claim 1

The entirety of Examiner's rejection of independent claim 1 is reproduced below.[1]

[1] Any excess white space or stray markings associated with Examiner's rejections or the excerpts from the cited references included herein are artifacts of the manner by which these materials have been inserted. No matter has been omitted.

> Gonzales disclose a method implementable on an encoder for adjusting a coding threshold for encoding a block in an image (Gonzales: column 24, lines 17-36), comprising: encoding, at a first time, a first image representation of the block using first encoding parameters generated by the encoder (Gonzales: column 10, lines 30-40); encoding, at a second time later than the first time, a second image representation of the block using second encoding parameters generated by the encoder (Gonzales: column 14, lines 50-67); assessing at least the first and second encoding parameters to determine whether the image is likely stationary (Gonzales: column 15, lines 40-54), wherein the first and second encoding parameters comprise at least first and second quantization parameters (Gonzales: column 16, lines 20-45); and if the image is likely stationary, adjusting the coding threshold in the encoder for at least a portion of the block (Gonzales: column 20, lines 45-60), as in claim 1. However, Gonzales fails to disclose using the coding threshold to determine whether the block should be coded or not. Chiu discloses a video coding method including a pre-processing element which executes the option of not coding (Chiu: column 9, lines 25-35: skipping encoding of macroblocks) in order to save the computational load on the available resources of the encoder (Chiu: column 9, lines 1-10). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate the Chiu skipping step into the Gonzales method in order to convey the advantage of alleviating the computational burdens associated with encoding processing to the method of the primary reference. The Gonzales method, now incorporating the Chiu skipping step, has all of the features of claim 1.

As can be seen, Examiner's rejection is essentially a regurgitation of the language of claim 1 with citations to the Gonzales and Chiu references interspersed therein. Other than a brief statement of the Examiner's rationale for combining the Gonzales and Chiu references (further discussed below), there is no analysis of either the claim language or the teachings of the references contained in this rejection. For purpose of legibility, and as an introduction to Appellants' traversal of this rejection, Examiner's rejection may be summarized by the table below.

Claim Language	Examiner's Citation
1. A method implementable on an encoder for adjusting a coding threshold for encoding a block in an image, wherein the	Gonzales at col. 24, ll. 17–36; Chiu at col. 9, ll. 25–35.

coding threshold determines whether the block should be coded, comprising:	
encoding, at a first time, a first image representation of the block using first encoding parameters generated by the encoder;	Gonzales at col. 10, ll. 30–40.
encoding, at a second time later than the first time, a second image representation of the block using second encoding parameters generated by the encoder;	Gonzales at col. 14, ll. 50–67.
assessing at least the first and second encoding parameters to determine whether the image is likely stationary, wherein the first and second encoding parameters comprise at least first and second quantization parameters; and	Gonzales at col. 15, ll. 40–54 & col. 16, ll. 20–45
if the image is likely stationary, adjusting the coding threshold in the encoder for at least a portion of the block.	Gonzales at col. 20, ll. 45–60.

As can be seen from the claim language reproduced above, claim 1 recites a method of encoding video that incorporates a threshold for determining whether a given block should be coded. The method includes encoding a block (*i.e.*, a portion of an image) at a first time, encoding the same block at a second time (*i.e.*, the same portion of the image in a subsequent frame). The first and second encodings both use encoding parameters generated by the encoder, including at least quantization parameters. These encoding parameters are compared as between the first and second encodings to determine if the block in question is likely stationary, and, if so, the coding threshold is adjusted, thus affecting whether the block will be encoded in the future. As can be seen below, the references cited by the Examiner have nothing whatsoever to do with the recited method.

First, the rejection is improper because the combination of Gonzales and Chiu fails to teach or suggest "a method…for adjusting a coding threshold for encoding a block in an image, wherein the coding threshold determines whether the block should be coded…"

Examiner cites Gonzales at col. 24, ll. 17-36 as teaching this limitation. Office Action of 4-14-2008 at 2. In this passage, Gonzales discloses:

> "A method for the allocation of bits to be used to compression code digital data signals representing a set of pictures in a motion video sequence, comprising the steps of:
>
> - identifying each picture,...
> - determining the total number of bits to be used in compression coding,... and
> - allocating from said total number of bits for use in compression coding a picture..."

The passage referenced by Examiner relates to a method of allocating a number of bits to encoding an image, and is entirely silent as to "A method implementable on an encoder for adjusting a coding threshold for encoding a block in an image, wherein the coding threshold determines whether the block should be coded" other than being related to a video encoding method. As noted above, it has nothing to do with the recited coding threshold.

As set forth in Appellants' specification coding threshold is a value to be compared to "the magnitude of change in a portion of the image.... If the magnitude of change for a portion of the image is lower than some acceptable coding threshold (T1), the encoder concludes that the image portion is non-moving and will transmit such a conclusion to the receiving decoder(s) without recoding that portion of the image." (Specification at ¶ 4, ll. 8-12)

There is no evidence that Gonzales teaches "a method... for adjusting a coding threshold for encoding a block in an image, wherein the coding threshold determines whether the block should be coded..." as recited in claim 1. The cited passage says nothing at all about a coding threshold or any related concept. Therefore the rejection is improper.

Next, claim 1 recites "encoding, at a first time, a first image representation of the block using first encoding parameters generated by the encoder, [and] encoding, at a second time later than the first time, a second image representation of the block using second encoding parameters generated by the encoder." Examiner contends that Gonzales at col. 10, ll. 30-40 teaches the first encoding and Gonzales at col. 14, ll. 50-67 teaches the second encoding. The first cited passage describes preprocessing of the image, not "encoding, at a first time, a first image representation of the block," or even encoding a block at all. Second, the passage certainly does not describe coding a second representation of the same block at a second time. The second

passage merely describes adapting a quantization parameter in conjunction with a rate control algorithm to maximize video quality while staying within a constrained number bits.

Moreover, it is clear from apparent lack of any sort of temporal relationship between the two passages cited above that they do not relate to "encoding at a first time...[and] encoding at a second time…" Because the combination of Gonzales and Chiu do not teach or suggest coding first and second representations of an image block at two different times, the rejection of claim 1 is improper.

Additionally, claim 1 recites "assessing at least the first and second coding parameters to determine whether the image is likely stationary, wherein the first and second encoding parameters comprise at least first and second quantization parameters." Examiner contends that Gonzales at col. 15, ll. 40–54 teaches the first portion of this limitation, *i.e.*, "assessing at least the first and second encoding parameters to determine whether the image is likely stationary…." As an initial matter, Examiner impermissibly split this limitation into two pieces, thus failing to consider the claim as a whole. *See* MPEP § 2141.02. In any case, the passage cited by Examiner recites:

> **Motion Estimation and MB Classification Unit**
>
> One of the primary purposes of the Motion Estimation and MB Classification unit **14** is to determine which coding mode m(r,c) will be used to code each MB in a picture. This function is only used for motion compensated pictures, since there is only one mode for MB's in I-pictures: intramode. The mode decision relies on a motion estimation process, which also produces motion vectors and motion-compensated difference MB's. Another important function of the Motion Estimation and MB Classification unit **14** is to classify each MB. The class cl(r,c) of MB (r,c) will ultimately determine the value of the quantization factor QP(r,c) used to code that MB. The modes and classes are determined by analyzing each picture, and estimating the motion between the picture to be coded and the predicting picture(s). The same information is also used to compute the coding difficulty factor, D_K, which is passed to the Picture Bit Allocation subsystem **2**.

Substantively, the passage bears little, if any, relationship to the limitation at issue. This passage addresses the use of motion estimation to determine a coding mode which will in turn dictate the quantization parameter. It therefore cannot "[assess quantization parameters] to determine whether the image is likely stationary." Even a cursory analysis of this claim language will show that the claim requires assessing the quantization parameter as part of the determination of whether the image is stationary, which is nowhere to be found in the passage cited by the Examiner.

The rejection cites Gonzales at col. 16, ll. 20-45 as teaching second portion of this limitation, *i.e.*, the limitation requiring that one of the encoding parameters considered in determining whether the block is stationary include quantization parameters. The complete text of this passage is reproduced below.

> success of motion compensation (motion compensation error), that indicates how good the match is between the MB being compensated and the predicting region pointed to by the motion vector, can be made available. It will be recalled that for P-pictures, there is one type of motion estimation (forward-in-time), and for B-pictures there are three types (forward-in-time, backward-in-time, and interpolative-in-time). The forward motion vector for MB (r,c) may be denoted as $mv_f(r,c)$, and the backward motion vector as $mv_b(r,c)$. The interpolative mode uses both forward and backward vectors. The forward, backward, and interpolative motion compensation errors may be denoted as $\Delta_{mc,f}(r,c)$, $\Delta_{mc,b}(r,c)$, and $\Delta_{mc,i}(r,c)$, respectively.
>
> In addition to the motion compensation error(s), a measure of the spatial complexity of each MB is needed. Denote this measure as $\Delta(r,c)$. It is important that $\Delta(r,c)$, $\Delta_{mc,f}(r,c)$, $\Delta_{mc,b}(r,c)$, and $\Delta_{mc,i}(r,c)$, are like measures, in the sense that numerical comparison of them is meaningful. In the preferred embodiment, these measures are all defined to be mean absolute quantities, as indicated below. Labeling each MB by its row and column coordinates (r,c), denotes the luminance values of the four 8×8 blocks in MB (r,c) by $y_k(i,j)$, $i=0, \ldots, 7$, $j=0, \ldots, 7$, $k=0, \ldots, 3$ and the average value of each 8×8 block by dc_k. Then, the spatial complexity measure for MB (r,c) is taken to be the mean absolute difference from DC, and is given by

Nothing in this passage describes assessing encoding parameters, including a quantization parameter, to determine whether the block is stationary. Thus, the cited passages fail to teach or suggest "assessing at least the first and second encoding parameters to determine whether the image is likely stationary, wherein the first and second encoding parameters comprise at least first and second quantization parameters." Moreover, Gonzales and Chiu in the entirety fail to teach or suggest this limitation. The cited limitations are simply not present in the reference.

Because the combination of Gonzales and Chiu does not teach or suggest "assessing at least the first and second encoding parameters to determine whether the image is likely

stationary, wherein the first and second encoding parameters comprise at least first and second quantization parameters," the rejection of claim 1 is improper.

Lastly, claim 1 recites "if the image is likely stationary, adjusting the coding threshold in the encoder for at least a portion of the block." Adjustment of the coding threshold is depicted in Fig. 5 of Appellants' specification, among other places. Both Gonzales and Chiu fail to teach or suggest "adjustment of the coding threshold" "if the image is likely stationary," and thus cannot meet this limitation. As with the limitations discussed above, Gonzales and Chiu simply have nothing to do with the recited coding threshold, and thus cannot adjust the threshold.

As noted above, the threshold is a value used to compare against the "magnitude of change in a portion of the image." (Specification at ¶ 4 ll. 8–9) For example, in one embodiment, "if the magnitude of change for a portion of the image is lower than some acceptable coding threshold, the encoder 20 concludes that the image portion is non-moving and will transmit such a conclusion to the receiving decoders without recoding that portion of the image. If the degree of change is greater than [the threshold], the encoder 20 similarly concludes that the image portion is moving or changing, and more detailed processing and recording of that image portion is performed prior to transfer."

Examiner contends that Gonzales teaches "adjusting the coding threshold in the encoder for at least a portion of the block" at col. 20, ll. 45-60. Even a casual reading of the citation provided by Examiner shows that his position is untenable. The following is the excerpt cited by Examiner from Gonzales at col. 24 ll. 18-36:

> match the expected number. It is desired to control this deviation, not only to keep the actual bits produced for the picture close to the target, but also to prevent violation of the VBV bit-rate limitations. A rate control feedback strategy has been developed in accordance with the invention which updates QP_{low} at the end of each row of MB's. A number of factors determine the update. One factor is that different rows of MB's in a picture are not expected to produce the same number of bits, because of variations in $\Delta(r,c)$ and $\Delta_{mc}(r,c)$, as well as assigned quantizer step sizes. At the end of each row, the number of bits produced is compared to the expected number T(r) computed in the QP-level Set unit **15**. Another factor which plays a role in updating QP_{low} is the closeness of both the picture allocation and the actual number of bits produced to the VBV limits. The

The paragraph cited by the Examiner merely describes a method of allocating bits available to code a picture by adjusting the quantization parameter. A quantization parameter is not a "threshold." A quantization parameter affects the number of distinct allowable values used to encode characteristics of a pixel. It is not, however, a value used to compare to the "magnitude of change in a portion of the image and determine whether the block should be coded." Additionally, Chiu fails to cure this defect in Gonzales. As such, "adjustment of the coding threshold" distinguishes claim 1 from both references, and claim 1 is therefore allowable.

Finally, the Examiner admits that Gonzales does not teach using a coding threshold to determine whether the block should be coded or not. Notably, this admission renders nonsensical virtually the entirety of his preceding rejection, as he cites Gonzales for numerous teachings relating to the admittedly absent coding threshold. Instead, the Examiner relies on Chiu in Col. 9, ll. 1–10, 25–35. The following are the excerpts cited by Examiner:

> value, then that macroblock is not subjected to motion estimation/compensation. This results in a segmentation of a frame into macroblocks that have changed a visually perceptible amount from the previous frame and macroblocks that have not changed a visually perceptible amount from the previous frame. As a result, the computational effort otherwise associated with motion estimation/compensation of that macroblock is saved or may be allocated to motion estimation/compensation of another macroblock or some other encoder processing function. It is to be appreciated that

> sated. The output signal is also provided to the transformer **116**, which then informs the other affected components of the encoder **100** (i.e., quantizer **118**, entropy encoder **120**, etc.), that a particular macroblock is not to be processed thereby. That is, once a macroblock is identified as one to be skipped, the macroblock is not motion estimated/compensated and therefore the transformer **116**, the quantizer **118**, and the entropy encoder **120** do not process data associated with that particular macroblock.
>
> It should be understood that an encoder implementing these inventive compression techniques then need only transmit or store motion vectors for those macroblocks that are motion compensated, that is, those macroblocks that have been identified as having changed a visually perceptible degree from a corresponding macroblock of the previous frame. Advantageously, a corresponding video decoder

As with the Gonzales passage described above, nothing in either of these passages teaches, suggests, or in any way relates to "if the image is likely stationary, adjusting the coding threshold in the encoder for at least a portion of the block." These two passages of Chiu relate to identifying unchanged macroblocks and skipping the encoding of these unchanged macroblocks. Nothing in these passages describes how the decision to skip macroblock encoding is made, or that such decision is based on the macroblocks stationary (as opposed to "unchanged," which is not necessarily the same thing. More critically, there is no teaching or suggestion of the recited threshold, much less adjusting the threshold. Therefore, because Gonzales and Chiu fail to teach or suggest "if the image is likely stationary, adjusting the coding threshold in the encoder for at least a portion of the block," the rejection is improper.

Because the proposed combination of Gonzales and Chiu fails to teach or suggest numerous limitations of the pending claims, the rejection of these claims as obvious over these references improper. Although it is not necessary to address the proposed rationale for combining Gonzales and Chiu, Applicants note that Examiner's proposed rationale is improper. Specifically, the Examiner states that "it would have been obvious for one of ordinary skill in the art to incorporate the Chiu skipping step into the Gonzales method in order to convey the advantage or alleviating the computational burdens associated with the encoding processing of the method of the primary reference."

This rationale completely ignores the fact that the claims expressly recite that the blocks in question are encoded twice, and that the net result is not a reduction in present computational burden at the present time, but rather a change in a coding threshold that prevents a block from being coded in the future for aesthetic purposes. Further, unchanged blocks make up only a portion of blocks that fall under the category of changing less than a threshold amount. As such, there exists no motivation to combine Chiu with Gonzales.

Examiner's response to these arguments, as presented in the Final Rejection, do nothing to cure the deficiencies cited above. The references simply do not teach what Examiner says they teach. No amount of handwaving will change the simple fact that Gonzales and Chiu, whether separately or in combination, fail to teach or suggest the recited method. Therefore, the rejection of claim 1 is improper and should be reversed.

2. Independent Claim 13

The entirety of Examiner's rejection of independent claim 13 is reproduced below.

> Gonzales discloses a method implementable on an encoder for adjusting a coding threshold for encoding a block in an image (Gonzales: column 24, lines 17-36), comprising: encoding, at a first time, a first image representation of the block using at least a first quantization parameter (Gonzales: column 15, lines 5-15) and a first motion vector (Gonzales: column 15, lines 40-67; column 16, lines 1-5) generated by the encoder (Gonzales: column 10, lines 30-40); encoding, at a second time later than the first time, a second image representation of the block using at least a second quantization parameter (Gonzales: column 14, lines 50-67) and a second motion vector (Gonzales: column 15, lines 40-67; column 16, lines 1-5) generated by the encoder (Chui: column 14, lines 50-65); and adjusting the coding threshold in the encoder for at least a portion of the block (Gonzales: column 20, lines 45-60) if the first and second motion vectors are substantially zero (Gonzales: column 17, lines 50-67; column 18, lines 1-14) and if the first and second quantization parameters are respectively less than first and second quantization parameter thresholds (Gonzales: column 16, lines 20-45), as in claim 13. However, Gonzales fails to disclose using the coding threshold to determine whether the block should be coded or not. Chiu discloses a video coding method including a pre-processing element which executes the option of not coding (Chiu: column 9, lines 25-35: skipping encoding of macroblocks) in order to save the computational load on the available resources of the encoder (Chiu: column 9, lines 1-10). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate the Chiu skipping step into the Gonzales method in order to convey the advantage of alleviating the computational burdens associated with encoding processing to the method of the primary reference. The Gonzales method, now incorporating the Chiu skipping step, has all of the features of claim 13.

As can be seen, Examiner's rejection is essentially a regurgitation of the language of claim 13 with citations to the Gonzales and Chiu references interspersed therein. Other than a brief statement of the Examiner's rationale for combining the Gonzales and Chiu references (briefly discussed above), there is no analysis of either the claim language or the teachings of the references contained in this rejection. For purpose of legibility, and as an introduction to Appellants' traversal of this rejection, Examiner's rejection may be summarized by the table below.

Claim Language	Examiner's Citation
13. A method implementable on an encoder for adjusting a coding threshold for encoding a block in an image, wherein the coding threshold determines whether the block should be coded, comprising:	Gonzales at col. 24, ll. 17–36; Chiu at col. 9, ll. 25–35 & col. 9, ll. 1–10.
encoding, at a first time, a first image representation of the block using at least a first quantization parameter and a first motion vector generated by the encoder;	Gonzales at col. 15, ll. 5–15, 40–67; col. 16, ll. 1–5 & col. 10, ll. 30–40.
encoding, at a second time later than the first time, a second image representation of the block using at least a second quantization parameter and a second motion vector generated by the encoder; and	Gonzales at col. 14, ll. 50–67; col. 15, ll. 40–67 & col. 16, ll. 1–5; Chiu at col. 14, ll. 50–65.
adjusting the coding threshold in the encoder for at least a portion of the block if the first and second motion vectors are substantially zero and if the first and second quantization parameters are respectively less than first and second quantization parameter thresholds.	Gonzales at col. 20, ll. 45–60; col. 17, ll. 50–67; col. 18, ll. 1–14; & col. 16, ll. 20–45.

Independent claim 13 is in many respects similar to claim 1. The most notable difference is that claim 13 recites that the encoding parameters generated by the encoder during the first and second encodings of the block include a motion vector in addition to the quantization parameter (which was recited in claim 1). Examiner relies on the same basic teachings of the reference, with additional passages cited. However, as set forth more fully below, these additional citations only further prove that the references have nothing whatsoever to do with the method recited in claim 13.

Claim 13 is drawn to "A method implementable on an encoder for adjusting a coding threshold for encoding a block in an image, wherein the coding threshold determines whether the block should be coded." Examiner cites the same teachings of Gonzales and Chiu relied upon for the similar limitation in claim 1. The deficiencies of Examiner's position were set forth above with respect to claim 1 and thus are not repeated here. The same arguments presented above with respect to claim 13. Thus, the rejection of claim 13 is improper.

As with claim 1, the first two steps of claim 13 recite encoding a block at a first time and a second time using encoding parameters including quantization parameters. These two steps also recite that the encoding parameters include motion vectors. At least as regards the first and second encodings and the quantization parameters, the deficiencies of this rejection with respect to the previously cited portions of Gonzales were addressed above and are not repeated here. In those respects, the rejection of claim 13 is deficient for at least the reasons the rejection of claim 1. The additional portions of the references cited as teaching the encoding steps of claim 13 are analyzed below.

Again, claim 13 recites "encoding, at a first time, a first image representation of the block using at least a first quantization parameter and a first motion vector generated by the encoder." Examiner cites Gonzales at col. 15, ll. 5–15, 40–67 &col. 16, ll. 1–5 as teaching this limitation. The entirety of these citations are reproduced and discussed below.

> Although, for purposes of description here, the spatial regions will be treated as MPEG macroblocks (MB), it should be understood that the procedures described may be applied to regions of different sizes and shapes.
>
> FIG. 11 generally illustrates the components of the AQ/RC Picture Coder 1. The operation of this subsystem depends on the type of picture being coded. As seen in the Figure, a video picture signal F_k, for a picture k, which may or may not have been preprocessed in the QP-adaptive Pre-processor 3, enters a Motion Estimation and MB Classification unit 14 of the AQ/RC Picture Coder 1. There, the signal is analyzed and each MB is classified according to procedures described below. If

Gonzales at col. 15, ll. 5–15. As can be plainly seen, there is nothing in this passage that describes, teaches, or suggests "encoding, at a first time, a first image representation of the block using at least a first quantization parameter and a first motion vector generated by the encoder" and then "encoding, at a second time later than the first time, a second image representation of the block using at least a second quantization parameter and a second motion vector generated by the encoder." At best this passage is suggestive of motion compensated video coding, but it does not teach the repeated coding of blocks using parameters that are subsequently analyzed to adjust a coding threshold.

> Motion Estimation and MB Classification Unit
>
> One of the primary purposes of the Motion Estimation and MB Classification unit **14** is to determine which coding mode m(r,c) will be used to code each MB in a picture. This function is only used for motion compensated pictures, since there is only one mode for MB's in I-pictures: intramode. The mode decision relies on a motion estimation process, which also produces motion vectors and motion-compensated difference MB's. Another important function of the Motion Estimation and MB Classification unit **14** is to classify each MB. The class cl(r,c) of MB (r,c) will ultimately determine the value of the quantization factor QP(r,c) used to code that MB. The modes and classes are determined by analyzing each picture, and estimating the motion between the picture to be coded and the predicting picture(s). The same information is also used to compute the coding difficulty factor, D_k, which is passed to the Picture Bit Allocation subsystem **2**.
>
> The objective of motion estimation in the MPEG video coding algorithm is to obtain a motion vector $mv(r,c)=(r_{mv}, c_{mv})$ and the associated motion-compensated difference MB $M_k(r,c)$. The motion-compensated difference MB is the pixel-wise difference between the current MB under consideration and the predicting MB. The exact method for forming the prediction MB depends on the motion compensation mode employed, and is detailed in the above-noted ISO-IEC JTC1/SC2/WG11 MPEG CD-11172, MPEG Committee Draft, 1991. The motion vector should, in some sense, be indicative of the true motion of the part of the
>
> **16**
>
> picture with which it is associated. Details of motion estimation techniques can be found in A.N. NETRAVALI AND B. G. HASKELL, *Digital Pictures: Representation and Compression* New York, N.Y.: Plenum Press, 1988.

Gonzales at col. 15, ll. 40–67 & col. 16, ll. 1–5. Again, this passage may describe motion compensated video compression, but it does not teach encoding a block at a first and second

times and using encoding parameters generated during these two encodings to generate an encoding threshold.

Examiner also relies on Chiu at col. 14, ll. 50–65 for teaching the second encoding step. However, Chiu contains only 12 columns, and thus this citation appears to be in error. In any case, review of Chiu does not seem to suggest encoding a block at first and second times and comparing encoding parameters including quantization parameters and motion vectors used during those encodings to adjust a coding parameters.

Claim 13 also recites "adjusting the coding threshold in the encoder for at least a portion of the block if the first and second motion vectors are substantially zero and if the first and second quantization parameters are respectively less than first and second quantization parameter thresholds." This step requires adjusting a coding threshold based on the motion vectors and quantization parameters used in the two encoding steps referenced above. Examiner cites the same portion of Gonzales cited for the similar limitation in claim 1. This citation fails to teach or suggest the cited limitation for at least the reasons set forth above, which are not reproduced here. Examiner further relies on Gonzales at col. 17, ll. 50–67; col. 18, ll. 1–14; and col. 16, ll. 20–45 as teaching this limitation. Each of these passages is reproduced below, and, as can be plainly seen, they do not teach the required adjusting of a coding threshold based on the motion vectors and quantization parameters used in the first and second encoding steps.

> It is intended that the measures used to determine MB modes and compute coding difficulties could be by-products of the motion estimation procedure. This is possible, in part, because the measures described above are often used to find the best motion vector in motion estimation procedures.
>
> These measures are also used to classify macroblocks. In the preferred embodiment, the MB's are classified as follows. The class of all intramode MB's is computed by quantizing the minimum value of $\Delta_k(r,c)$ for that MB. Defining a threshold t, the class cl(r,c) of MB (r,c) is given by
>
> $$cl(r,c) = \frac{\min\limits_{k}[\Delta_k(r,c)]}{t}.$$
>
> After a motion compensation mode has been chosen for motion compensated MB's, they are classified according to:
>
> $$cl(r,c) = \frac{\min\left[\min\limits_{k}[\Delta_k(r,c)], \Delta_{mc}(r,c)\right]}{t}.$$
>
> A value of t=2 is used in the preferred embodiment. Note that both intramode and motion compensated measures are used to classify motion compensated MB's. The mode and class information is used, along with the underlying measures, by the QP-level Set unit **15** to determine an initial quantization level, and by the RC Picture Coder unit **16** during coding.

Gonzales at col. 17, l. 50–col. 16, l. 14. The cited teaching apparently relates to a threshold that is used to classify the type of motion compensation used for various macroblocks. The cited threshold is not a coding threshold that "determines ***whether*** the block should be coded" as recited in claim 13, but rather classifies ***how*** the block was coded. Therefore, this teaching fails to teach or suggest the threshold adjustment step recited in claim 13.

> success of motion compensation (motion compensation error), that indicates how good the match is between the MB being compensated and the predicting region pointed to by the motion vector, can be made available. It will be recalled that for P-pictures, there is one type of motion estimation (forward-in-time), and for B-pictures there are three types (forward-in-time, backward-in-time, and interpolative-in-time). The forward motion vector for MB (r,c) may be denoted as $mv_f(r,c)$, and the backward motion vector as $mv_b(r,c)$. The interpolative mode uses both forward and backward vectors. The forward, backward, and interpolative motion compensation errors may be denoted as $\Delta_{mc,f}(r,c)$, $\Delta_{mc,b}(r,c)$, and $\Delta_{mc,i}(r,c)$, respectively.
>
> In addition to the motion compensation error(s), a measure of the spatial complexity of each MB is needed. Denote this measure as $\Delta(r,c)$. It is important that $\Delta(r,c)$, $\Delta_{mc,f}(r,c)$, $\Delta_{mc,b}(r,c)$, and $\Delta_{mc,i}(r,c)$, are like measures, in the sense that numerical comparison of them is meaningful. In the preferred embodiment, these measures are all defined to be mean absolute quantities, as indicated below. Labeling each MB by its row and column coordinates (r,c), denotes the luminance values of the four 8×8 blocks in MB (r,c) by $y_k(i,j)$, $i=0, \ldots, 7$, $j=0, \ldots, 7$, $k=0, \ldots, 3$ and the average value of each 8×8 block by dc_k. Then, the spatial complexity measure for MB (r,c) is taken to be the mean absolute difference from DC, and is given by

Gonzales at col. 16, ll. 20–45. As can be plainly seen, there is nothing in this passage that teaches or suggests "adjusting a coding threshold" that "determines whether the block should be coded" based on the quantization parameters and motion vectors used by an encoder in first and second encodings of the block.

Thus, the references cited by Examiner fail to teach or suggest the encoding steps recited in claim 13, rendering Examiner's rejection of claim 13 improper. As with claim 1, Examiner's response to these arguments in the Final Rejection do nothing to overcome the undeniable fact that references simply do not teach what Examiner says they teach. Therefore, the rejection of claim 13 is improper and should be reversed.

3. Independent Claim 31

The entirety of Examiner's rejection of independent claim 31 is reproduced below.

> Gonzales discloses a method implementable on an encoder (Gonzales: column 24, lines 17-36) capable of transmitting image information to a decoder (Gonzales: column 12, lines 45-67), comprising: encoding, at a first time, a first image representation of the block using first encoding parameters generated by the encoder (Gonzales: column 10, lines 30-40); encoding, at a second time later than the first time, a second image representation of the block using second encoding parameters generated by the encoder (Gonzales: column 14, lines 50-67); assessing at least the first and second encoding parameters to determine whether the image is likely stationary (Gonzales: column 15, lines 40-54), wherein the first and second encoding parameters comprise at least first and second quantization parameters (Gonzales: column 9, lines 50-60); and if the image is likely stationary (Gonzales: column 16, lines 20-45), as in claim 31. However, Gonzales fails to disclose using the coding threshold to determine whether the block should be coded or not by sending a no code signal to a decoder for at least a portion of the block. Chiu discloses a video coding method including a pre-processing element which executes the option of not coding by sending a no code signal (Chiu: column 9, lines 25-35: skipping encoding of macroblocks) in order to save the computational load on the available resources of the encoder (Chiu: column 9, lines 1-10). Accordingly, given this teaching, it would have been obvious for one of ordinary skill in the art to incorporate the Chiu skipping step into the Gonzales method in order to convey the advantage of alleviating the computational burdens associated with encoding processing to the method of the primary reference. The Gonzales method, now incorporating the Chiu skipping step, has all of the features of claim 31.

As can be seen, Examiner's rejection is essentially a regurgitation of the language of claim 31 with citations to the Gonzales and Chiu references interspersed therein. Other than a brief statement of the Examiner's rationale for combining the Gonzales and Chiu references (further discussed above), there is no analysis of either the claim language or the teachings of the references contained in this rejection. For purpose of legibility, and as an introduction to Appellants' traversal of this rejection, Examiner's rejection may be summarized by the table below.

Claim Language	Examiner's Citation
31. A method implementable on an encoder capable of transmitting image information to a decoder, comprising:	Gonzales at col. 24, ll. 17–36 & col. 12, ll. 45–67.
encoding, at a first time, a first image representation of the block using first encoding parameters generated by the encoder;	Gonzales at col. 10, ll. 30–40.
encoding, at a second time later than the first time, a second image representation of the block using second encoding parameters generated by the encoder;	Gonzales at col. 14, ll. 50–67.
assessing at least the first and second encoding parameters to determine whether the image is likely stationary, wherein the first and second encoding parameters comprise at least first and second quantization parameters; and	Gonzales at col. 15, ll. 40–54; col. 9, ll. 50–60.
if the image is likely stationary, sending a no code signal to a decoder for at least a portion of the block.	Gonzales at col. 16, ll. 20–45; Chiu at col. 9, ll. 25–35; col. 9, ll. 1–10.

Independent claim 31 is in many respects similar to claims 1 and 13. The most notable difference is that claim 31 recites that the encoding parameters generated by the encoder during the first and second encodings of the block include two quantization parameters. Examiner relies on the same basic teachings of the reference, with additional passages cited. However, as set forth more fully below, these additional citations only further prove that the references have nothing whatsoever to do with the method recited in claim 31.

Claim 31 is directed to "a method implementable on an encoder capable of transmitting image information to a decoder" that includes first and second encoding steps as recited above except that the encoding parameters used in the first and second encoding steps include two quantization parameters. This differs from claim 1 in that claim 1 only recites the use of at least one quantization parameter. Examiner cites the same portions of the references for these limitations as were cited for the corresponding limitations in claim 1. Thus, the rejection of claim 31 is deficient for at least the reasons set forth above, which are not repeated here.

Claim 31 further recites "assessing at least the first and second encoding parameters to determine whether the image is likely stationary, wherein the first and second encoding

parameters comprise at least first and second quantization parameters." Examiner cites Gonzales at col. 15, ll. 40–54 and col. 9, ll. 50–60 as teaching these limitations. The cited passages are reproduced below, and it can be plainly seen that they do not include the recited teaching.

> Motion Estimation and MB Classification Unit
>
> One of the primary purposes of the Motion Estimation and MB Classification unit **14** is to determine which coding mode m(r,c) will be used to code each MB in a picture. This function is only used for motion compensated pictures, since there is only one mode for MB's in I-pictures: intramode. The mode decision relies on a motion estimation process, which also produces motion vectors and motion-compensated difference MB's. Another important function of the Motion Estimation and MB Classification unit **14** is to classify each MB. The class cl(r,c) of MB (r,c) will ultimately determine the value of the quantization factor QP(r,c) used to code that MB. The modes and classes are determined by analyzing each picture, and estimating the motion between the picture to be coded and the predicting picture(s). The same information is also used to compute the coding difficulty factor, D_k, which is passed to the

Gonzales at col. 15, ll. 40–54. As can be plainly seen, this passage contains no mention of assessing multiple quantization parameters from first and second encodings of a block to determine whether the block is likely stationary.

> FIG. 16 depicts three possible filter state (FS) of the QP-Adaptive Pre-processor shown in FIG. 15.
>
> DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS
>
> Preliminarily, as noted above, an important feature of the ISO/IEC MPEG standard is that only the syntax of the compressed bit stream and the method of decoding it are specified in detail. Therefore, it is possible to have different encoders, all of which produce bit streams compatible with the syntax of the standard, but which are of different complexities, and result in different levels of visual quality at a given bit-rate. The MPEG standard applies primarily, but not exclusively, to situations in which the average bit-rate of the compressed data stream is fixed. The MPEG specification contains a precise definition of the term "fixed bit-rate". However, even though the average rate must be constant, the number of bits allocated to each picture in an MPEG

Gonzales at col. 9, ll. 50–60. Again, it is clear that this passage contains nothing even remotely related to assessing multiple quantization parameters from first and second encodings of a block to determine whether the block is likely stationary.

Finally, claim 31 also recites "if the image is likely stationary, sending a no code signal to a decoder for at least a portion of the block." Examiner cites Gonzales at col. 16, ll. 20–45 and Chiu at col. 9, ll. 1–10 and 25–35. Each of these passages is reproduced below, and it can be clearly seen that they do not contain any teaching or suggestion relating to sending a no code signal to a decoder for images determined to be stationary.

> success of motion compensation (motion compensation error), that indicates how good the match is between the MB being compensated and the predicting region pointed to by the motion vector, can be made available. It will be recalled that for P-pictures, there is one type of motion estimation (forward-in-time), and for B-pictures there are three types (forward-in-time, backward-in-time, and interpolative-in-time). The forward motion vector for MB (r,c) may be denoted as $mv_f(r,c)$, and the backward motion vector as $mv_b(r,c)$. The interpolative mode uses both forward and backward vectors. The forward, backward, and interpolative motion compensation errors may be denoted as $\Delta_{mc,f}(r,c)$, $\Delta_{mc,b}(r,c)$, and $\Delta_{mc,i}(r,c)$, respectively.
>
> In addition to the motion compensation error(s), a measure of the spatial complexity of each MB is needed. Denote this measure as $\Delta(r,c)$. It is important that $\Delta(r,c)$, $\Delta_{mc,f}(r,c)$, $\Delta_{mc,b}(r,c)$, and $\Delta_{mc,i}(r,c)$, are like measures, in the sense that numerical comparison of them is meaningful. In the preferred embodiment, these measures are all defined to be mean absolute quantities, as indicated below. Labeling each MB by its row and column coordinates (r,c), denotes the luminance values of the four 8×8 blocks in MB (r,c) by $y_k(i,j)$, $i=0, \ldots, 7$, $j=0, \ldots, 7$, $k=0, \ldots, 3$ and the average value of each 8×8 block by dc_k. Then, the spatial complexity measure for MB (r,c) is taken to be the mean absolute difference from DC, and is given by

Chiu at col. 16, ll. 20–45. As with virtually all of the passages cited by Examiner, there is simply nothing that relates to the limitation for which the passage is cited, in this case “if the image is likely stationary, sending a no code signal to a decoder for at least a portion of the block.”

> value, then that macroblock is not subjected to motion estimation/compensation. This results in a segmentation of a frame into macroblocks that have changed a visually perceptible amount from the previous frame and macroblocks that have not changed a visually perceptible amount from the previous frame. As a result, the computational effort otherwise associated with motion estimation/compensation of that macroblock is saved or may be allocated to motion estimation/compensation of another macroblock or some other encoder processing function. It is to be appreciated that
>
> sated. The output signal is also provided to the transformer **116**, which then informs the other affected components of the encoder **100** (i.e., quantizer **118**, entropy encoder **120**, etc.), that a particular macroblock is not to be processed thereby. That is, once a macroblock is identified as one to be skipped, the macroblock is not motion estimated/compensated and therefore the transformer **116**, the quantizer **118**, and the entropy encoder **120** do not process data associated with that particular macroblock.
>
> It should be understood that an encoder implementing these inventive compression techniques then need only transmit or store motion vectors for those macroblocks that

Chiu at col. 9, ll. 1–10 and 25–35. Again, there is nothing in the cited passage that relates to "sending a no code signal to a decoder for at least a portion of the block" "if the image is likely stationary" as recited in claim 31.

Thus, the references cited by Examiner fail to teach or suggest the encoding steps recited in claim 31, rendering Examiner's rejection of claim 31 improper. As with claim 1, Examiner's response to these arguments in the Final Rejection do nothing to overcome the undeniable fact that references simply do not teach what Examiner says they teach. Therefore, the rejection of claim 31 is improper and should be reversed.

4. Dependent Claims 2–4, 6, 9–12, 14–20, 32–34, 36, and 39–40

The Examiner also rejected dependent claims 2–4, 6, 9–12, 14–20, 32–34, 36, and 39–40 as obvious over Gonzales in view of Chiu. However, each of these claims depends, either directly or indirectly from one of independent claims 1, 13, or 31. As these independent claims are patentable for at least the reasons set forth above, the claims depending therefrom are also

necessarily patentable for at least the same reasons. Reversal of the rejection of these claims is therefore requested.

B. The Rejection Of Claims 21–24, 26, And 29–30 As Obvious Over Gonzales In View of Iwata.

In an Office Action dated April 14, 2008, Examiner rejected claims 21–24, 26, and 29–30 under 35 U.S.C. § 103(a) as obvious over Gonzales in view of Iwata.[2] Claim 21 is the only independent claim in this range, with each of the remaining claims depending therefrom. Thus, Appellants traverse the rejection of claim 21 as set forth below. The dependent claims are necessarily patentable for at least the same reasons as independent claim 21.

The entirety of Examiner's rejection of claim 21 is reproduced below.

[2] Although this rejection was not repeated in the Final Rejection appealed, Examiner nonetheless now maintains that this rejection remains in effect.

> 4. Claims 21-24, 26, 29-30 are rejected under 35 U.S.C. 103(a) as being anticipated by Gonzales et al., (hereinafter referred to as "Gonzales") in view of Iwata.
>
> Gonzales discloses a method (Gonzales: column 24, lines 17-36), comprising: processing, at a first time, a first image representation of the block including first encoding parameters generated by the encoder (Gonzales: column 10, lines 30-40); processing, at a second time later than the first time, a second image representation of the block including second encoding parameters generated by the encoder (Gonzales: column 14, lines 50-67); assessing whether the image is likely stationary using at least the first and second encoding parameters (Gonzales: column 15, lines 40-54), wherein the first and second encoding parameters include at least first and second quantization parameters (Gonzales: column 16, lines 20-45); and if the image is likely stationary, not updating at least a portion of the block on the display (Gonzales: 22, lines 45-65), as in claim 21. However, Gonzales fails to disclose implementing the method on a decoder and having associated receiving steps as in the claims, as it is only associated with compression. However, Iwata discloses a total image processing system that discloses both the operation of a coder and a decoder in conjunction with the coder (Iwata: column 7, lines 60-67; column 8, lines 1-20) in order to reproduce already compressed video (Iwata: column 1, lines 55-65). Accordingly, given this teaching, it would have been obvious at the time of the invention for one of ordinary skill in the art to incorporate the teaching of Iwata's use of a decoder into the teaching of the primary reference in order to arrive at a complete image processing system that allows for the pristine reproduction of encoded video information on a display. The Gonzales method, now incorporating the Iwata teaching of a decoder implementation, has all of the features of claim 21.

As can be seen, Examiner's rejection is essentially a regurgitation of the language of claim 21 with citations to the Gonzales and Iwata references interspersed. Other than a brief statement of the Examiner's rationale for combining the Gonzales and Iwata references, there is no analysis of either the claim language or the teachings of the references contained in this rejection. For purpose of legibility, and as an introduction to Appellants' traversal of this rejection, Examiner's rejection may be summarized by the table below.

Claim Language	Examiner's Citation
21. A method implementable on a decoder capable of displaying a block of an image on a display, comprising:	Gonzales at col. 24, ll. 17–36; Iwata at col. 7, ll. 60–67 & col. 1, ll. 55–65
receiving from an encoder, at a first time, a first image representation of the block including first encoding parameters generated by the encoder;	Gonzales at col. 10, ll. 30–40
receiving from an encoder, at a second time later than the first time, a second image representation of the block including second encoding parameters generated by the encoder;	Gonzales at col. 14, ll. 50–67
assessing at the decoder whether the image is likely stationary using at least the first and second encoding parameters, wherein the first and second encoding parameters include at least first and second quantization parameters; and	Gonzales at col. 16, ll. 20–45
if the image is likely stationary, not updating at least a portion of the block on the display.	Gonzales at col. 22, ll. 45–65

Independent claim 21 is in some respects similar to claim 1, discussed above. The most notable difference between claims 21 and 1 is that claim 21 is drawn to a decoder-based implementation of the method of determining whether a block is stationary. Rather than encoding the blocks at two subsequent times, claim 1 recites receiving blocks encoded at two subsequent times. However, like claim 1, claim 21 also recites that the assessment of whether the blocks are stationary is performed using quantization parameters from the coding process. For each of the pertinent limitations, Examiner cites substantially the same portions of the Gonzales reference discussed above with respect to independent claims 1, 13, and 31. Thus, the rejection of claim 21 is deficient for at least the reasons set forth above with respect to the other claims. Specifically, Gonzales contains no teaching or suggestion of assessing whether a block is stationary based on encoding parameters and then not updating the display of a stationary portion of a block.

Examiner cites Iwata merely as teaching a video decoder (as opposed to an encoder), and not for any of the substantive limitations of claim 21. While Iwata may teach a video decoder, it

does not teach or suggest a video decoder that performs any of the steps recited in claim 21, and thus it cannot cure the deficiencies of Examiner's rejection of claim 21. Therefore, the rejection of claim 21 is improper and should be reversed.

Conclusion

For at least the reasons stated above, Applicants respectfully submit that all outstanding rejections should be reversed. Additionally, to the extent specific claims have not been addressed, these claims depend from one or more claims that are specifically addressed, and are therefore patentable for at least the same reasons as the claims specifically addressed. Applicants further believe that they have complied with each requirement for an appeal brief.

In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed, but rather that they are not pertinent to the outstanding rejection as presently framed. Nonetheless, the claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art which have yet to be raised (because they are not pertinent to the present rejection), but which may be raised in future proceedings as appropriate.

If any fees are required or have been overpaid, please appropriately charge or credit those fees to Deposit Account Number 501922, referencing docket number **199-0201US**.

* * * * *

Respectfully submitted,

/Billy C. Allen III/

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VIII. CLAIMS APPENDIX

1. (previously presented) A method implementable on an encoder for adjusting a coding threshold for encoding a block in an image, wherein the coding threshold determines whether the block should be coded, comprising:

   encoding, at a first time, a first image representation of the block using first encoding parameters generated by the encoder;

   encoding, at a second time later than the first time, a second image representation of the block using second encoding parameters generated by the encoder;

   assessing at least the first and second encoding parameters to determine whether the image is likely stationary, wherein the first and second encoding parameters comprise at least first and second quantization parameters; and

   if the image is likely stationary, adjusting the coding threshold in the encoder for at least a portion of the block.

2. (original) The method of claim 1, wherein the first and second image representations comprise a matrix of quantized discrete cosine transform coefficients.

3. (original) The method of claim 1, wherein the first and second encoding parameters respectively comprise at least first and second motion vectors.

4. (original) The method of claim 3, wherein assessing to determine whether the image is likely stationary comprises determining whether the first and second motion vectors are substantially zero.

5. (canceled)

6. (previously presented) The method of claim 1, wherein assessing to determine whether the image is likely stationary comprises determining whether the first and second quantization parameters are respectively below first and second quantization parameter thresholds.

7–8. (canceled)

9. (original) The method of claim 1, wherein adjusting the coding threshold comprises adjusting the coding threshold to decrease the likelihood of encoding the block at the second time.

10. (original) The method of claim 1, wherein adjusting the coding threshold comprises increasing the coding threshold.

11. (original) The method of claim 1, further comprising:

encoding, a third time prior to the first time, a third image representation of the block using third encoding parameters generated by the encoder; and

assessing at least the first, second, and third encoding parameters to determine whether the image is likely stationary.

12. (original) The method of claim 1, wherein the first and second encoding parameters respectively comprise whether the first and second image representations of the block are intercoded, and wherein assessing the first and second encoding parameters comprises an assessment whether the first and second image representations of the block are intercoded.

13. (original) A method implementable on an encoder for adjusting a coding threshold for encoding a block in an image, wherein the coding threshold determines whether the block should be coded, comprising:

encoding, at a first time, a first image representation of the block using at least a first quantization parameter and a first motion vector generated by the encoder;

encoding, at a second time later than the first time, a second image representation of the block using at least a second quantization parameter and a second motion vector generated by the encoder; and

adjusting the coding threshold in the encoder for at least a portion of the block if the first and second motion vectors are substantially zero and if the first and second quantization parameters are respectively less than first and second quantization parameter thresholds.

14. (original) The method of claim 13, wherein the first and second image representations comprise a matrix of quantized discrete cosine transform coefficients.

15. (original) The method of claim 13, wherein the first and second quantization parameter thresholds are the same.

16. (original) The method of claim 13, wherein adjusting the coding threshold comprises adjusting the coding threshold to decrease the likelihood of encoding the block at the second time.

17. (original) The method of claim 13, wherein adjusting the coding threshold comprises increasing the coding threshold.

18. (original) The method of claim 13, further comprising:

encoding, a third time prior to the first time, a third image representation of the block using at least a third quantization parameter and a third motion vector generated by the encoder; and

adjusting the coding threshold in the encoder for the block if the first, second, and third motion vectors are substantially zero and if the first, second, and third quantization parameters are respectively less than first, second, and third quantization parameter thresholds.

19. (original) The method of claim 18, wherein the first, second, and third quantization parameter thresholds are the same.

20. (original) The method of claim 13, further comprising:

encoding, at the first time, the first image representation of the block using intercoding;

encoding, at the second time, the second image representation of the block using intercoding; and

adjusting the coding threshold in the encoder for at least a portion of the block if the first and second image representations are intercoded.

22. (original) The method of claim 21, wherein the first and second image representations comprise a matrix of quantized discrete cosine transform coefficients.

23. (original) The method of claim 21, wherein the first and second encoding parameters respectively comprise at least first and second motion vectors.

24. (original) The method of claim 23, wherein assessing to determine whether the image is likely stationary comprises determining whether the first and second motion vectors are substantially zero.

25. (canceled)

26. (previously presented) The method of claim 21, wherein assessing to determine whether the image is likely stationary comprises determining whether the first and second quantization parameters are respectively below first and second quantization parameter thresholds.

27–28. (canceled)

29. (original) The method of claim 21, further comprising:

receiving from the encoder, a third time prior to the first time, a third image representation of the block including third encoding parameters generated by the encoder; and

assessing at least the first, second, and third encoding parameters to determine whether the image is likely stationary.

30. (original) The method of claim 21, wherein the first and second encoding parameters respectively comprise whether the first and second image representations of the block are intercoded, and wherein assessing the first and second encoding parameters comprises an assessment whether the first and second image representations of the block are intercoded.

31. (previously presented) A method implementable on an encoder capable of transmitting image information to a decoder, comprising:

encoding, at a first time, a first image representation of the block using first encoding parameters generated by the encoder;

encoding, at a second time later than the first time, a second image representation of the block using second encoding parameters generated by the encoder;

assessing at least the first and second encoding parameters to determine whether the image is likely stationary, wherein the first and second encoding parameters comprise at least first and second quantization parameters; and

if the image is likely stationary, sending a no code signal to a decoder for at least a portion of the block.

32. (original) The method of claim 31, wherein the first and second image representations comprise a matrix of quantized discrete cosine transform coefficients.

33. (original) The method of claim 31, wherein the first and second encoding parameters respectively comprise at least first and second motion vectors.

34. (original) The method of claim 33, wherein assessing to determine whether the image is likely stationary comprises determining whether the first and second motion vectors are substantially zero.

35. (canceled)

36. (previously presented) The method of claim 31, wherein assessing to determine whether the image is likely stationary comprises determining whether the first and second quantization parameters are respectively below first and second quantization parameter thresholds.

37–38. (canceled)

39. (original) The method of claim 31, further comprising:

encoding, a third time prior to the first time, a third image representation of the block

using third encoding parameters generated by the encoder; and

assessing at least the first, second, and third encoding parameters to determine whether the image is likely stationary.

40. (original) The method of claim 31, wherein the first and second encoding parameters respectively comprise whether the first and second image representations of the block are intercoded, and wherein assessing the first and second encoding parameters comprises an assessment whether the first and second image representations of the block are intercoded.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.